



Joint Space Training Federation Overview

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JSTF Program



JSTF Program Objective



To ensure the DoD is capable of meeting current and future threats in space, **JSTF** will provide Combatant Commanders and Services a persistent, distributed, integrated space training & exercise capability that is dynamic, scalable and sustainable within the Joint Environment to stimulate operational space awareness systems & displays

- JSTF will deliver high fidelity space M&S to support exercises and operational training from tactical- to campaign- level events, operational planning and future capabilities
- Be easily modified to address emerging requirements and to meet USSTRATCOM, USNORTHCOM-NORAD and USJFCOM's growing space simulation requirements
- CSAF concurred on urgent need for JSTF and tasked AF/A9 to support effort between USSTRATCOM, NORTHCOM-NORAD, JFCOM, AFSPC, AFAMS, AFRL and SMC
- Gen Chilton sent JSTF Program memo to CSAF, CNO, Director of NRO, JFCOM/CC, AFSPC/CC, SMD/CC, USFLTFORCOM/CC and USCYBERCOM/CC
- Includes White Paper – Identifies SMC STAO (SMC/SNT) as PM office



Why the DoD needs JSTF

CDR USSTRATCOM : *“Space operators need simulators to train with for the inevitable fight we will have one day in the space domain”* (2 Mar 10 e-mail to CSAF & AFSPC/CC)

AFSPC/CC: *“We're to the point that this space M&S issue is a real concern. Given today's complexities we need something far more extensive”* (3 Mar 10 reply)

CSAF: *“We need to take actions to bring space modeling and simulation to the degree of fidelity that we expect in the air domain”* (4 Mar 10 reply)

- Not all elements of the space mission can be emulated or stimulated simultaneously and consistently every time – forcing stovepipe training and “white carding”
- Capabilities do not provide a complete, accurate, and consolidated space picture across space systems – a situation that does not occur in the operational world
- No cross functional technical training capability for fully integrated, dynamic space training across COCOMs and Services within the Joint Training Environment
- M&S tools are C2 system-specific injectors, requiring exercise & training planners to develop static training scenarios multiple times across multiple C2 systems

Lack of High Fidelity Space M&S = White Card training



How we got here

- **Dec 09: CDR STRATCOM memo identifying M&S shortfalls supporting USSTRATCOM's mission**
- **Jul 10: CDR STRATCOM formal memo ID'd three tracks for resolution**
 - **Track 1:** Achieve an **initial exercise** and training capability for GL11
 - **Track 2:** Develop a **long-term program** for a federated M&S capability supporting tactical to strategic exercises and training
 - **Track 3:** Space M&S capabilities supporting current planning/analysis and acquisition **decision making**
- **USSTRATCOM, USJFCOM, AFSPC, Space Training Acquisition Office (STAO), and Air Force Agency for Modeling and Simulation (AFAMS) are the logical key stakeholders**



JSTF is a joint initiative designed to:

- **Identify training capability shortfalls for space**
- **Document gaps, shortfalls and requirements using the JCIDS process**
- **Collect, merge, validate and prioritize requirements from all stakeholders (COCOMS, Air Force, Navy, Army, etc.)**
- **Develop capabilities that allow commanders, battle staffs and operators to train and exercise using their real-world C4 devices (or a realistic replication) in response to realistic stimuli**

Bottom Line: “The Joint Space Training Federation will create the ability for space forces to conduct realistic operational training in a simulated environment and provide high fidelity space data for joint warfighter exercises and training”



JSTF Fundamental Principals

- **Should NOT discontinue existing simulation architectures**
 - **Space Systems Generator (SSG) and GPS Environment Generator (GEG) integrated into the Joint Live, Virtual, Constructive Federation Object Model (JLVC FOM)**
 - **DMOC-S modifying SSG to stimulate JSpOC Mission System (JMS) (Mid Term Objective)**
- **Start with Small, Immediate Steps – address existing capability gaps**
 - **Identify infrastructure needs for personnel and equipment to support existing gaps, i.e.; reliance on white cards**
 - **Identify evolving needs as requirements are identified through the Capabilities Based Assessment (CBA)**
- **Provide Centralized Oversight and Guidance for the JSTF**
 - **AFAMS partnering with STAO to conduct solution analysis and deliver products to the end user, respectively**



JSTF M&S Approach

- **JSTF is not one M&S effort, it is many**
 - **Joint aspect is served by presentation of space effects**
- **AFSPC presents forces mainly through the JSpOC (614 AOC)**
 - **First effort focused at JMS stimulation**
 - **Previously fielded equipment and connectivity are leveraged**
- **AFSPC Forces presenting or reporting direct to theater**
 - **Theater Ballistic Missile Warning**
 - **Space Control**

Eliminate “White Cards” where logical and cost effective



DMOC-S Recent Activity

- **Accomplished Demos**
 - **14 AF/CC Demo of 31 March**
 - **USSTRATCOM Demo 18 May**
 - **Three vignettes (identical for the demos)**
 - **Co-orbital Anti-satellite (ASAT)**
 - **Sensor outage (Defense Support Program - DSP)**
 - **Communication outage (MILSTAR)**
- **JSTF Joint Working Group Meetings**
 - **May: Scenarios & Operational Views Finalized**
 - **July: Training Capability Requirements Development**
- **Space & Naval Warfare Systems Command (SPAWAR) Coordination Meeting (SMC/SY's JMS RDT&E Partner)**
 - **SPAWAR brings rapid software development & test expertise**
 - **JSTF JWG scenarios provided to SPAWAR**



DMOC-S JSTF Objectives

- **Short-Term:**
 - **Install & integrate JMS software on existing DMOC-S hardware**
 - **Develop JMS stimulation capabilities**
 - **Install & integrate Standard Space Trainer (SST) in DMOC-S**
 - **Install & integrate collateral production JMS**
- **Support AFSPC/A5C mid-term objectives as required**
- **Long-Term:**
 - **Support collateral JSpOC training & other exercise events via stimulation of ISSA, SST, JMS, and other tools**
 - **Plan and complete Certification & Accreditation (C&A) actions for high-side JMS**
 - **Install, and integrate high-side JMS in DMOC-S**



DMOC-S Considerations

- **Recommend DMOC-S purchase high-side JMS no earlier than FY13 for obsolescence & infrastructure creation reasons**
 - **Current plans: collateral JMS in FY11 (not yet funded), high-side in FY12 (anticipate one-year shift to right on both)**
- **Nothing beyond current JMS Capability Pack 0 (CP0) is on the books due to program restructure**
- **JMS is one of many contributors to JSTF capability; momentum may be maintained by maturing other capabilities (GEG, SST, SSG, etc.)**
 - **Distributed stimulation developments will be able to contribute to ultimate JSpOC training system with any JMS Program Office approach**



JSTF Next Steps

- **GEG & SSG**
 - Integrated in JLVC 4.5 FOM and will be part of 5.0
 - Integrated with AWSIM for Blue Flag
 - Will be part of JLVC 5.0 FOM – Oct 11
- **JMS**
 - Install CP0 Software – anticipate done Nov 11
 - DMOC-S Increment 1 release anticipated Feb 12
- **SST**
 - Baseline software install at DMOC-S – Sept 11
 - SST DSCS connection anticipated Feb 12

Eliminate “White Cards” where logical and cost effective



QUESTIONS?